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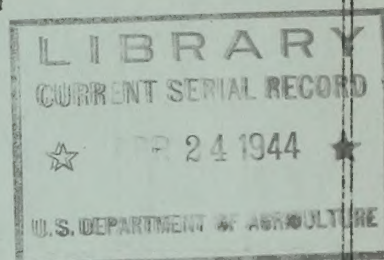
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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

March 1, 1944



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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

March 10, 1944

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for
RIO GRANDE BASIN

March 1, 1944

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U. S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation October 1 to February 29	Departure from Normal	Precipitation February	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	3.38	+0.14	0.32	-0.17
Rio Grande	Colorado	6.91	+0.36	1.70	+0.07
Rio Grande	New Mexico	4.76	-0.52	0.84	-0.30
Pecos	New Mexico	4.20	+0.52	0.54	-0.03

SUMMARY OF MARCH 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF
PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth		Water Content		Number Courses in Average	Snow Density		1944 Water Content in percent of	
	Eight Year Avg.*	1943	Eight year Avg.*	1944		Eight year Avg.*	1944	Eight Year Avg.*	1943
Rio Grande	In. 32.0	In. 26.0	In. 8.8	In. 9.1	24	Percent 27	Percent 30	103	113
Canadian River	In. 17.7	In. 9.0	In. 4.9	In. 7.2	2	Percent 28	Percent 22	147	360

*Some for shorter periods.

During February the precipitation over the Rio Grande, Canadian and Pecos drainage areas has been slightly below normal except on the upper Rio Grande in Colorado and precipitation since October 1 has been above normal except on the Rio Grande in New Mexico. Conditions have improved considerably since February 1.

WATER SUPPLY OUTLOOK

The present water supply outlook for the Rio Grande and its tributaries, in both Colorado and New Mexico, is much improved over that a year ago as based on snow cover. For the San Luis Valley, in Colorado, the water content of the snow is now 10 percent more than last year at this time, and in New Mexico it is 30 percent above. For the entire watershed the present water content exceeds that of last year by 18 percent and is about equal to the past 8-year average. The greatest depth and water content reported by the recent snow surveys is that found on Wolf Creek Pass, depth $7\frac{1}{2}$ feet, containing $28\frac{1}{2}$ inches of water. Last year at this time it was 6 feet and $23\frac{1}{2}$ inches respectively. Reservoir storage in the San Luis Valley area is now only 45 percent of March 1st last year and in New Mexico, Elephant Butte and Caballo combined, the filling is 72 percent of that a year ago. El Vado on the Chama now holds 37,400 acre-feet, which is about 75 percent of last year. Soil moisture in the irrigated areas is good. The Alamosa, Monte Vista, and Del Norte sections of the Valley are covered with a 10 to 12-inch blanket of snow which will later leave the soil in excellent condition for spring planting. Stream flow is normal.

CANADIAN AND PECOS. The snow cover at this time on the headwaters of these streams is much better than it was a year ago. On the Ocate Mesa snow course the recent snow survey shows a water content of 6.2 inches in comparison with 1.5 inches last year. In the Conchas Reservoir, in the lower valley, the present storage is 293,000 acre-feet which is almost identical with that of a year ago. Precipitation in the irrigated sections was above normal during February. The subsoil is deficient of moisture and range conditions are rather poor. Stream flow continues at normal stage.

On the watershed of the Pecos the snow cover is likewise improved over that of last year. On the Panchuela snow course, near Cowles, the water content of the snow is 5.1 inches or practically double that of last year at this time. Reservoir storage on the Carlsbad Project is only one-half the amount held a year ago. The spring runoff is expected to improve the storage situation. Soil moisture throughout the irrigated area is fair to good. The ranges are good and livestock came through the winter in fine condition. Stream flow is normal.

The general outlook for this year's water supply is rather encouraging at this time and should March and April have normal precipitation there will be sufficient runoff to provide a substantial accumulation in storage to meet the irrigation demands for the coming season.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued March 10, 1944, at Fort Collins, Colo.

Main Drainage and Snow Course		Local Drainage	State	Location Locality	Description	Elev.	National Forest	Mar. 1 Snow Cover Measurements									
No.	Snow Course							Av. ©	In.	1943	In.	1944	Av. ©	In.	1943	In.	1944
RIO GRANDE																	
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr. Pass	4-37N-2E	10000	Rio Grande	76.1	72.5	90.4	23.3	23.6	28.5				
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	"	25.2	20.0	35.3	5.7	5.6	7.6				
47	Silver Lakes	Alamosa R.	"	1mi. S. Silver L.	15-36N-5E	9600	"	23.0	21.6	30.2	4.7	4.5	6.0				
49	River Springs	Conejos R.	"	10mi. W. Mogote	25-33N-6E	9300	"	27.2	24.2	32.1	6.7	6.8	7.6				
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass	22-28S-70W	9300	San Cristobal	30.3	26.7	27.8	6.8	5.7	6.8				
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	RioGrande	61.6	54.9	65.4	16.8	14.9	16.5				
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	"	69.2	63.1	71.6	21.8	20.9	17.9				
80	Santa Maria	N. Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	"	20.1	22.4	25.9	4.3	6.3	4.7				
82	Culebra	Culebra R.	"	12mi. E. San Luis	37-2N-10S-2W	10000	San Cristobal	34.6	19.8	31.4	9.1	6.1	7.3				
84	Fort Garland	Big Ute Cr.	"	6mi. N. Ft. Garland	13-29N-72W	8200	"	16.6	---	15.8	3.8	---	2.9				
1	Red River	Red River	N. Mex.	6mi. SE. Red River	29-28N-15E	9500	Carson	29.8	24.8	36.7	8.3	8.6	10.0				
2	Taos Canyon	Rio de Taos	"	14mi. E. Taos	10-25N-15E	9000	"	21.4	12.5	28.1	6.2	4.2	7.5				
4	Aspen Grove	Rio En Medio	"	10mi. NE. Santa Fe	12-18N-10E	9100	Santa Fe	21.0	17.5	23.6	5.3	4.4	6.0				
5	Lee Ranch	Jemez Cr.	"	5mi. NW. Bland	3-18N-4E	9050	"	30.1	20.0	33.4	7.5	6.0	8.6				
6	Canjilon	Canjilon Cr.	"	8mi. NE. Canjilon	4-26N-6E	9500	Carson	48.2	42.5	44.3	17.0	17.2	15.0				
7	Rio Nutrias	Rio Nutrias	"	10mi. SE. Park View	6-27N-5E	7900	"	18.0	12.0	17.7	4.4	2.4	3.4				
9	Hematite Park*	Red River	"	3mi. SE. Red R.	8-28N-15E	9500	Carson	21.2	10.4	30.3	5.7	2.6	8.2				
12	Tres Ritos	Agua Piedra	"	7mi. W. Holman	23-22N-13E	9000	"	24.2	16.4	28.7	6.4	3.9	7.6				
15	Pay Role	Spring Creek	"	6mi. SE. Hopewell	23-28N-7E	9700	"	34.4	25.1	36.4	8.4	7.1	8.1				
16	Jicarilla	Rock Lake Cr.	"	15mi. S. Dulce	9-29N-1W	8500	Jicarilla R.	16.9	8.4	20.0	4.5	2.3	3.9				
17	Chama Divide	Willow Creek	"	6mi. W. Chama	36-9N-106.7W	7750	OffForest	21.7	18.3	23.7	6.2	5.8	5.6				
18	Chamita	Chamita Cr.	"	6mi. NW. Chama	36-9N-106.7W	8500	"	37.7	31.2	37.1	10.2	9.1	8.4				
19	Cordova	Cordova Canyon	"	2mi. W. Tres Ritos	22-22N-13E	10100	Carson	39.7	30.9	42.3	10.4	8.3	11.1				
20	Panchuela #2*	Panchuela Cr.	"	2mi. N. Cowles	27-19N-12E	8300	Santa Fe	15.6	10.9	21.9	4.2	2.9	5.1				
21	Big Tesuque	Big Tesuque Cr.	"	10mi. NE. Santa Fe	17-18N-11E	10000	"	21.3	16.7	27.1	6.3	5.2	7.7				
Average for Drainage								32.0	26.0	35.9	8.8	7.7	9.1				
CANADIAN																	
9	Hematite Park	Morena Creek	N. Mex.	3mi. SE. Red R.	8-28N-15E	9500	Carson	21.2	10.4	30.3	5.7	2.6	8.2				
10	Ocate Mesa	Ocate Creek	"	3mi. E. Black L.	25-24N-15E	9200	OffForest	14.2	7.5	25.3	4.1	1.5	6.2				
Average for period of record.								17.7	9.0	27.8	4.9	2.0	7.2				

*On adjacent drainage

Average for period of record.

CERTIFICATE OF ADOPTION

RESOLUTION NO. 1000

ADOPTED BY THE BOARD OF DIRECTORS OF THE COMPANY

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